No. 9100054

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Resource Seeds, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

TRITICALE

'Stan II'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington, D.C. *this* 31st *day of* October *in the year of our Lord one thousand nine hundred and* ninety-four.

Attest:

Kenneth A. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Mike Espy
Secretary of Agriculture

FORM APPROVED: OMB 0581-0055, Expires 1/31/91

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) *(as it is to appear on the Certificate)*
Resource Seeds, Inc.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO.
C340

3. VARIETY NAME
Stan II

4. ADDRESS *(street and no. or R.F.D. no., city, state, and ZIP)*
2280 Hecker Pass Highway
Gilroy, CA 95020

5. PHONE *(Include area code)*
(408) 847-1051

FOR OFFICIAL USE ONLY

PVPO NUMBER
9100054

FILING
Date: Dec. 21, 1990
Time: ☐ A.M. ☐ P.M.

FEES RECEIVED
Filing and Examination Fee: $ 2150.00
Date: Nov. 5, 1990
Certificate Fee: $ 250.00
Date: Sept. 12, 1994

6. GENUS AND SPECIES NAME
Triticosecale Wittmack

7. FAMILY NAME *(Botanical)*
Poaceae

8. CROP KIND NAME *(Common Name)*
Triticale

9. DATE OF DETERMINATION
1986

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*
Corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
California

12. DATE OF INCORPORATION
October 1, 1990

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Dr. George Fohner
Resource Seeds, Inc.
P.O. Box 1319
Gilroy, CA 95021

PHONE *(Include area code)*: (408) 847-1051

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow INSTRUCTIONS on reverse)*

a. ☒ Exhibit A, Origin and Breeding History of the Variety.
b. ☒ Exhibit B, Novelty Statement.
c. ☒ Exhibit C, Objective Description of Variety.
d. ☒ Exhibit D, Additional Description of Variety.
e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.
f. ☒ Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office _____.
g. ☒ Filing and Examination Fee ($2,150) made payable to "Treasurer of the United States."

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See section 83(a) of the Plant Variety Protection Act.)*
☐ YES *(If "YES," answer items 16 and 17 below)* ☒ NO *(If "NO," skip to item 18 below)*

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☐ NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
☐ YES *(If "YES," through* ☐ Plant Variety Protection Act ☐ Patent Act. Give date: _____.)
☒ NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
☐ YES (If "YES," give names of countries and dates)
☒ NO (See Exhibit F)

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT *(Owner(s))*	CAPACITY OR TITLE	DATE
George Fohner	President	10/31/90
SIGNATURE OF APPLICANT *(Owner(s))*	CAPACITY OR TITLE	DATE
[signature]	CEO	11/2/90

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TRITICALE

"Stan II"

EXHIBIT A:

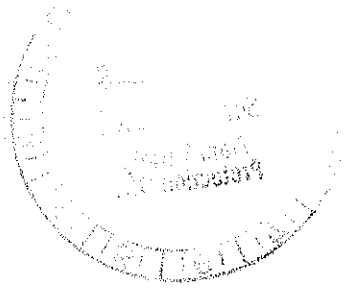
PEDIGREE: [T] 594 (Jenkins x Chiva)

"Stan II" is a winter type triticale (Triticosecale Wittmack) developed by Resource Seeds, Inc. under the research number C340. Single heads were selected in the F-2, F-3 and F-4 generation. Twenty of 200 single head progeny rows in the F-5 generation with good uniformity in plant type, were composited for breeder seed. The breeder's seed has been maintained in Salinas, California.

The primary criterion in the selection of Stan II for development and release as a variety was high number of tillers. Secondary criteria included stable fertility and plump kernels. Selection also was favored by the dark green foliage and resulting visual appeal.

During the multiplication process, some taller variants occurred in numbers which varied due to environmental difference. Tall variants appear approximately 1: 5000.

"Stan II" has been tested for performance in the breeding company's Advanced Replicated Grain Trials in the northern and southeastern United States from 1986 to the present, and in university trials in the Southeast since 1987. "Stan II" has remained stable for all its distinguished features throughout more than four successive generations.



TRITICALE

"Stan II"

EXHIBIT B:

NOVELTY STATEMENT

Triticale "Stan II" carries the *timopheevi* cytoplasm and is similar to the variety "Victoria". "Stan II" differs from "Victoria" in being a true winter type, whereas "Victoria" is an intermediate spring type.

"Stan II" also is taller, later maturing, and smaller seeded than "Victoria". "Stan II" is approximately ten (10) cm taller than "Victoria" in their overlapping areas of adaptation in the Southeastern U.S.. In those areas, "Stan II" heads approximately five (5) days later than "Victoria". "Stan II" kernels are medium size, with a 1000 kernel weight of 42 grams, while those of "Victoria" are larger, with a 1000 kernel weight of 50 grams.

FORM APPROVED: OMB NO. 40-R3712

FORM GR-470-33
(8/75)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

EXHIBIT C
(Triticale)

OBJECTIVE DESCRIPTION OF VARIETY

TRITICALE

NAME OF APPLICANT(S)	VARIETY NAME OR TEMPORARY DESIGNATION
Resource Seeds, Inc.	Stan II
ADDRESS (*Street and No., or F.F.D. No., City, State, and ZIP Code*) 2280 Hecker Pass Highway Gilroy, CA 95020	FOR OFFICIAL USE ONLY PVPO NUMBER 9100054

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. GROWTH HABIT:

[3] 1 = SPRING 2 = INTERMEDIATE 3 = WINTER

[2] Juvenile Plant Growth: 1 = PROSTRATE 2 = SEMIPROSTRATE 3 = ERECT

[2] Photoperiod: 1 = INSENSITIVE 2 = SENSITIVE

2. PLOIDY:

[1] 1 = HEXAPLOID 2 = OCTOPLOID 3 = OTHER (Specify)_____

[4][2] 2n CHROMOSOME NUMBER

3. MATURITY (50% Flowering):

[3] 1 = VERY EARLY 2 = EARLY 3 = MIDSEASON 4 = LATE 5 = VERY LATE

[ ][5] DAYS EARLIER THAN Stan I [ ] 1 = CARMACK 2 = ROSNER 3 = PATHFINDER

[ ][5] DAYS LATER THAN Victoria [ ] 4 = 6TA 204 5 = ARMADILLA

4. HEIGHT:

[1][2][0] CM. HIGH [4] 1 = DWARF 2 = SEMIDWARF 3 = SHORT 4 = MIDTALL 5 = TALL

[1][0] CM. SHORTER THAN Stan I [ ] 1 = CARMACK 2 = ROSNER 3 = PATHFINDER

[1][0] CM. TALLER THAN Victoria [ ] 4 = 6TA 204 5 = ARAMADILLA

5. PLANT COLOR AT BOOT STAGE:

[3] 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

6. STEM:

[1] Anthocyanin: 1 = ABSENT 2 = PRESENT

[2-3] Neck Hairiness: 1 = NONE 2 = SLIGHT 3 = MODERATE 4 = HEAVY

[1] Shape Of Neck: 1 = STRAIGHT 2 = WAVY 3 = OTHER (Specify)_____

7. LEAVES:

[1] Flag Leaf: 1 = NOT TWISTED 2 = TWISTED [2][5] CM. LEAF LENGTH: 1st Leaf Below Flag Leaf

[1] Waxy Bloom On Leaf At Boot: 1 = ABSENT 2 = PRESENT [2][2] MM. LEAF WIDTH: 1st Leaf Below Flag Leaf

[2] Leaf Carriage: 1 = UPRIGHT 2 = RECURVED 3 = DROOPING [1] Auricle Color: 1 = COLORLESS OR WHITE 2 = PURPLE 3 = OTHER (Specify)_____

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8. HEAD:

[2] Density: 1 = LAX 2 = MIDDENSE 3 = DENSE

[2] Shape: 1 = FUSIFORM 2 = OBLONG 3 = CLAVATE 4 = ELLIPTICAL 5 = OTHER (Specify)_____

[4] Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETTED 3 = AWNLETTED 4 = AWNED

[2] Awn Color: 1 = WHITE 2 = YELLOW 3 = TAN 4 = BROWN 5 = BLACK

[1][4] CM. HEAD LENGTH [1][2] MM. HEAD WIDTH

9. GLUMES AT MATURITY:

[1] Pubescence: 1 = GLABROUS 2 = SLIGHTLY PUBESCENT 3 = PUBESCENT

[1] Color: 1 = WHITE 2 = YELLOW 3 = TAN 4 = BROWN 5 = BLACK

[2] Length: 1 = SHORT 2 = MIDLONG 3 = LONG [2] Width: 1 = NARROW 2 = MIDWIDE 3 = WIDE

[1] Shoulder: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE [1] Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

10. COLEOPTILE COLOR:

[2] 1 = WHITE 2 = GREEN 3 = PURPLE

11. SEED:

[3] Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

[3] Smoothness: 1 = SMOOTH 2 = SLIGHTLY WRINKLED 3 = WRINKLED

[2] Brush Area: 1 = SMALL 2 = MIDSIZE 3 = LARGE

[2] Brush Length: 1 = SHORT 2 = MIDLONG 3 = LONG

[ ] Phenol Reaction: 1 = IVORY 2 = FAWN 3 = LIGHT BROWN 4 = BROWN 5 = BROWN BLACK

[6] Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = BLACK 6 = OTHER (Specify) light yellowish brown

[4][2] GMS. PER 1,000 SEED

12. DISEASE (0 = Not Tested, 1 = Susceptible, 2 = Resistant, 3 = Tolerant):

[0] STEM RUST (Races)_____

[0] STRIPE RUST (Race)_____

[2] POWDERY MILDEW_____

[3] SEPTORIA

[ ] OTHER (Specify)_____

[2] LEAF RUST (Races) field populations in CA and TX in 1986 and87

[0] ERGOT

[0] BACTERIAL STRIPE

[0] YELLOW DWARF

[ ] OTHER (Specify)_____

13. INSECT (0 = Not Tested, 1 = Susceptible, 2 = Resistant, 3 = Tolerant):

[0] GREENBUG

[0] CEREAL LEAF BEETLE

[ ] OTHER (Specify)_____

HESSIAN FLY RACE: see Table D1

[ ] GP [ ] A [ ] B [ ] C

[ ] D [2] E [ ] F [ ] G

[2] M

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14. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	VARIETY
PLANT TILLERING	Stan I
WINTER HARDINESS	Stan I and Lasko
AREA OF ADAPTATION	Lasko and Presto
SEED SHAPE	Victoria

REFERENCES:

L. W. Briggle and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, USDA.

W. E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, Contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts.

COMMENTS:

TRITICALE

"Stan II"

EXHIBIT D:

ADDITIONAL DESCRIPTION OF "STAN II"

"Stan II" is a winter type triticale suitable for grain and forage.

"Stan II" is a midseason in maturity group, averaging two to five days earlier in flowering than the variety "Stan I", five to seven days earlier than "Jenkins", and four to five days later than "Victoria" in the Southeastern United States.

"Stan II" is approximately 120 cm in height in the Southeastern USA, 10 cm shorter than "Stan I" and 20 cm shorter than "Jenkins". In Salinas, California, under irrigation the height of "Stan II" is approximately 125 cm.

Plant growth is semiprostrate, the seedling is very vigorous, dark green. At booting the plant is light blue green. Leaves are green on young plants but a waxy bloom may be present at booting on the underside of leaves under some environmental conditions (e.g. stress).

Flag leaves are medium in size and recurved. In less productive environments flag leaves has the tendency to be upright. Flag leaves generally are not twisted.

Internodes are hollow and usually have four nodes above ground. Upper culm nodes are slightly to moderate pubescent. The penultimate leaf averages 2.2 mm wide and 25 cm long.

Spikes are middense, oblong, awned, and yellow at maturity. Spikes average 14 cm long and 12 mm wide.

Glumes are glabrous, midlong and midwide. Shoulders are wanting and the beak is obtuse.

Kernels are light yellowish brown with a light reddish overtone, elliptical in shape, crease- wide, mid-deep. The brush is midwide and midlong. Kernels average 8 mm long and about 4 mm wide. The 1000 kernel weight is 42 grams.

"Stan II" has been highly resistant to leaf rust in both seedling and adult stage. It has been very resistant to Hessian Fly populations in Georgia (Table D1).

"Stan II" is similar to "Stan I", and "Lasko" in winterhardiness.

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Table D1 Hessian Fly Infestations of Winter Triticale at Three Locations in Georgia During 1988-1989

Genotype	Rating[a]	Location			
		Griffin	Plains	Midville	Mean
		----------Infested tillers (%)----------			
Sunseeds Stan I	S	19.9[b]	23.7[b]	31.1[b]	24.9[b]
Beagle 82	S	9.6	43.3[b]	13.1	22.0[b]
Thomas	S	11.1[b]	20.0	34.5[b]	21.9[b]
UGA Exp 87P987	S	14.7[b]	27.5[b]	22.6[b]	21.6[b]
Florida 201	S	11.2[b]	16.9	27.8[b]	18.6[b]
UGA Exp 88T4782	S	11.2[b]	16.7	23.8[b]	17.2[b]
Mixon Seed Inc. Florico	S	12.9[b]	19.7	16.7[b]	16.4[b]
Sunseeds Victoria	S	12.1[b]	15.0	20.2[b]	15.8[b]
Sunland	S	4.3	20.5	20.1[b]	15.0[b]
Morrison	R	8.9	11.1	13.9	11.3
Sunseeds Stan II	R	0	1.5	1.9	1.1
LSD (10%)		10.4	20.5	16.1	10.7

a. S = susceptible and R = resistant.
b. Indicates genotype is significantly more susceptible than most resistant cultivar.

Source: Buntin, G. D., and P. L. Raymer. "Susceptibility of Winter Wheat and Triticale to the Hessian Fly". The Georgia Agricultural Experiment Station, Research Bulletin 389, December 1989.

TRITICALE

"Stan II"

EXHIBIT E:

BASIS OF APPLICANT'S OWNERSHIP

The triticale variety, "Stan II" , for which Plant Variety Protection is hereby sought was developed by Dr. Stanislaw Nalepa, an employee of Resource Seeds, Inc., while employed by Sunseeds Genetics, to which all rights to the variety were assigned, with no rights retained by Dr. Nalepa.

In October, 1989, Sunseed Genetics sold all rights to "Stan II" to Pioneer Hi-bred International Inc., which in turn sold those rights in May, 1990 to Goldsmith Seeds, Inc.. In October, 1990, all rights to "Stan II" were sold by Goldsmith Seeds to its subsidiary Resource Seeds, Inc., which retains all rights to the variety.

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BILL OF SALE

FOR VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, Pioneer Hi-Bred International, Inc. ("Seller"), 700 Capital Square, 400 Locust, Des Moines, Iowa 50309 has sold and assigned, and by this Bill of Sale do grant, assign, and set over to Goldsmith Seeds, Inc. ("Buyer"), located at P.O. Box 1349, Gilroy, California 95021, its representatives, successors, and assigns, the Triticale Program, germplasm, and inventory ("Property") listed in Exhibit A, attached hereto and incorporated herein by reference.

Seller hereby warrants and represents that it is the lawful owner of said property, free from the liens and encumbrances, and Seller agrees to defend Buyer's title to Property against all and every person and persons whomsoever.

IN WITNESS WHEREOF, I have hereunder set my hand this 23rd day of May, 1990.

PIONEER HI-BRED INTERNATIONAL, INC.
("Seller")

By: Jerry L. Chicoine

Title: Senior Vice President/Chief Financial Officer

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EXHIBIT "A"

TRITICALE PROGRAM GERMPLASM ASSETS

1. Triticale Germplasm, including without limitation:

   a. all present commercial and pre-commercial varieties as attached hereto as Document 1;

   b. all experimentals from the time a cross is made through all generations (F1 up to varieties) inclusive of pre-commercials as attached hereto as Document 2;

   c. all germplasm used in crossing;

   d. the entire cytoplasm male sterile (CMS) system and its components including, without limitation, all male steriles, all cytoplasms for making male steriles, restorers and maintainers developed from private and public sources;

   e. all rights to production, marketing and other contractual rights regarding the varieties;

   f. all inventory of triticale germplasm as attached hereto as Documents #3 - #23.

9100054

RSI RESOURCE SEEDS, INC.
P.O. Box 1319 • Gilroy, CA 95021 • Tel: 408/847-1051

December 17, 1992

Mr. Eldon E. Taylor
Plant Variety Protection Office
NAL Building, Room 500
10301 Baltimore Blvd.
Beltsville, MD 20705-2351

Dear Mr. Taylor:

The enclosed documents and payment of $125.00 are for tranferring PVP rights from Pioneer Hi-Bred Intl. to Resource Seeds, Inc. for the five triticale varieties:

Variety Name	Certificate Number
Jenkins	8100001
Grace	8200032
Stan I	8700205
Eve	8700206
Victoria	8700207

On May 23, 1990 Pioneer sold their triticale program including rights to the above varieties to Goldsmith Seeds, Inc.. The Pioneer program and rights associated with it were subsequently sold by Goldsmith to its subsidiary, Resource Seeds, Inc., in whose name the PVP rights should now be recorded. Documentation of both transactions is enclosed.

Sincerely yours,

George Fohner
RESOURCE SEEDS, INC.

enclosures

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Gilroy Research — 2280 Hecker Pass Highway • Gilroy, CA 95020 • FAX: 408/848-5429
Visalia Research — 6744 Avenue #304 • Visalia, CA 93291 • Tel. & FAX: 209/651-0185
Woodland Research — P.O. Box 165 • Zamora, CA 95698 • Tel. & FAX: 916/662-4587

9100054

Notice of Sale of TRICAL® Brand Triticale Varieties

Ownership rights, including those rights conferred by certification under the Plant Variety Protection Act, to all TRICAL® Brand triticale varieties, including:

Variety Name	PVP Certificate Number
Jenkins	8100001
Grace	8200032
Stan I	8700205
Eve	8700206
Victoria	8700207

have been sold by Goldsmith Seeds, Inc. to Resource Seeds, Inc..

1/29/93
Date

Joel Goldsmith, President

OFFICIAL SEAL
PENNY M. MILLER
NOTARY PUBLIC — CALIFORNIA
COUNTY OF SANTA CLARA
Comm. Exp. Feb 3, 1995

2-1-93
Date

Penny Miller, Notary Public

TRITICALE

"Stan II"

EXHIBIT F:

Seed of "Stan II" was distributed for field tests and seed increase by Sunseed Genetics at the time of the sale of their triticale breeding program in 1989. These tests were discontinued during ownership of the triticale program by Pioneer Hi-Bred International, but have been resumed in the fall of 1990 by the current owner, Resource Seeds, Inc..